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Gaining Leverage over Vendor Lock to Improve Acquisition Performance and Cost Efficiencies

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Gaining Leverage over Vendor Lock to Improve Acquisition Performance and Cost Efficiencies

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AFCEA Acquisition Research
Symposium

Monterey, CA

Panel #6 – The Role of Competition in
Contracting

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Outline

- **Vendor Lock – What is it?**
- **Vendor Lock – What's the problem?**
- **Avoiding Vendor Lock**
- **Minimizing the Effects of Vendor Lock**
- **Resources**
- **Recommendations**

What is Vendor Lock?

- **“Vendor lock” - customers depend on a single manufacturer or supplier for some product (i.e., a good or service), and cannot shift to another vendor without incurring substantial costs or inconvenience**
 - Grants the vendor what amounts to monopoly power
 - Frees vendors to establish noncompetitive prices
 - Allows vendor to become the “sole source” of a given product or service
- **May be offset by savings**
 - Reduced production costs from shorter learning curves
 - Development costs absorbed by vendor in a large business base
 - Investment costs for commercial technologies and derivative product lines that benefit military products

Levels of Vendor Lock

- **Product/service (cable, phone, internet)**

- IT Platform lock-in

- **Technology (rockets, launchers)**

- ULA versus Space-X

- **Industry (airline)**

- Mergers impact prices and fees

- **Major Defense Systems**

- Little change in Top 5 Contractors



- Devices, applications, internet services are “inconvenient” to use on other platforms

US Airways/AmWest merge in 2005
Delta acquired Northwest in 2008
United and Continental merged in 2010
Southwest acquired Air Tran in 2011

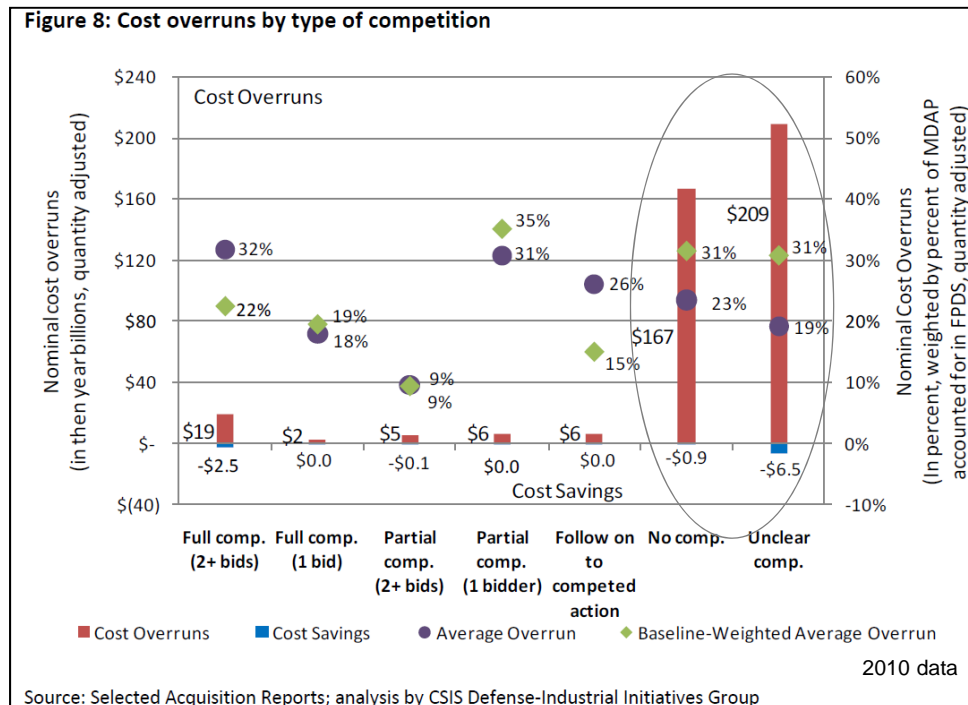
Table 5-2. Top 20 DoD Contractors for Products, 1999 and 2009

Rank	Top 20 Contractors in 1999	Contract Value in 2010 Millions	Top 20 Contractors in 2009	Contract Value in 2010 Millions
1	Boeing	7,080	Lockheed Martin	16,480
2	Lockheed Martin	6,930	Boeing	11,720
3	General Dynamics	4,330	General Dynamics	11,220
4	Raytheon	4,010	Raytheon	8,540
5	United Technologies	2,050	Northrop Grumman	8,360

Source: DD350 and FPDS; CSIS analysis

What is the Problem?

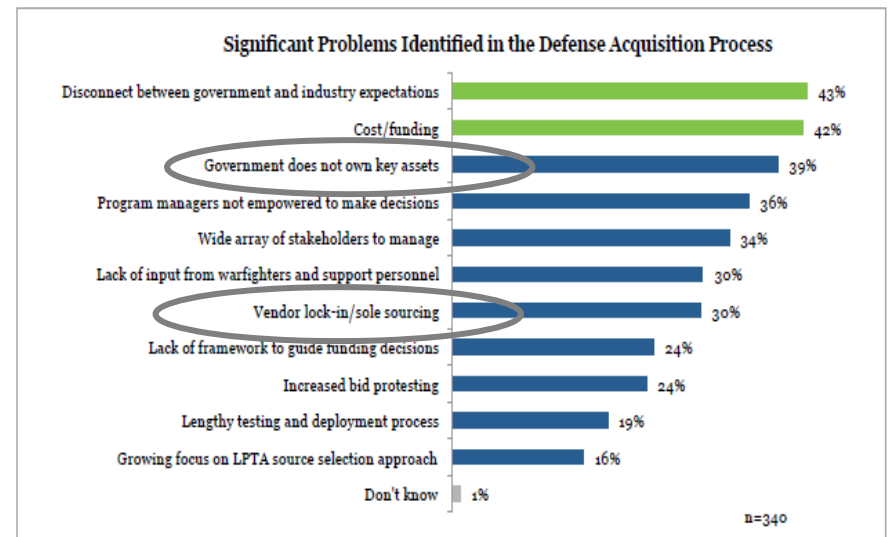
- Most Military Service programs award development and production contracts to a single prime vendor or contract team
- Vendors act differently in a vendor lock situation
- Government has little leverage to control costs and manage performance in a vendor lock scenario



Source: Selected Acquisition Reports; analysis by CSIS Defense-Industrial Initiatives Group

Research Shows...

- **Proprietary intellectual property (IP) rights restrictions may result from technical data and standards controlled by vendor**
 - *Open Systems Architecture Contract Guidebook for Program Managers*, OSD Ver 1.1. June 2013. App 10, Breaking Vendor Lock – strategies and tools
 - *Air Force Technical Data and Computer Software Rights Handbook for Acquisition Professionals*, March 2014 - value of owning technical data rights
- **Lack of Competition can increase costs and schedule**
 - GAO report 2012 -Defense weapons systems experienced a 38 percent cost growth from original estimates and a 27-month schedule overrun
 - Government Business Council and Booz Allen Hamilton, *Bridging the Disconnect*, Insight Report, March 2014 - Lack of ownership of key assets, and vendor lock-in or sole source drive acquisition problems



Gaining Leverage over Vendor Lock

Avoid Vendor Lock

- **Examine Intellectual Property Rights**
 - *Conduct an audit of IP and rights*
 - *Assess Government needs*
 - *Transition proprietary interfaces to standards*
 - *Review Contract Data Requirements*
- **Apply Competition Strategies**
 - *Consider dual sourcing strategies*
 - *Consider Competitive Multi-Sourcing*
- **Explore Shared Technology**
 - *Examine investments in technology across vendor product lines*
- **Use Alternative Production Quantities**
- **Apply Test and Evaluation Strategies**
 - *Continued design and production test*

Minimize Effects of Vendor Lock

- **Adopt Common Architecture**
 - *Develop common architecture across product lines*
 - *Negotiate new priced line items under a sole source modification*
- **Explore Common Product Lines**
 - *Review specifications for commonality and shared technology*
 - *Look for production efficiencies*
- **Manage Subcontractor, Supplier, and Make-or-Buy Decisions**
 - *Compete subsystems or components*
 - *Scrutinize make-or-buy decisions*
 - *Reduce supplier product variations*
- **Establish a Collaboration Forum**

Intellectual Property Assessment

■ New DoD IP Rights Rule

- DoD may challenge restrictions placed on the IP by the vendor

Under the new “Major Systems Rule,” ... the prime contractor or subcontractor must provide evidence to demonstrate it was actually developed at private expense or the contracting officer’s ‘challenge’ will be sustained. It effectively reverses the pre-existing presumption that contractors and subcontractors developed commercial items at their own private expense Jun 2011

■ Tools

- Open Source Software Scanner (OSSS) - determine if software includes open source code that may provide Government with IP rights at no additional cost
- Key Open Subsystems Tool (KOSS) - evaluate which system components most susceptible to vendor lock because of proprietary interfaces (Naval Air Systems Command, Patuxent River, MD; Public Release SPR-09-674, 5 Aug 2009)

■ Independent Assessment

- Defense Contract Management Agency (shared product data)
- Defense Contract Audit Agency (IR&D investment financial data)

■ OSD OSA Guidebook Strategies

- Establish IP ownership and apply standards

Continuous Competition Strategies

- **Competitive Dual Sources** - Two sources continuously drive down prices while competing for production over the life of the system
 - Greatest upfront investment by Government; creates the most competition
- **Percentage-based Distributions** - Vendor A receives majority of funding as primary; Vendor B receives smaller percentage to partially develop its design
 - This strategy keeps a second viable source in play during all phases to provide competitive pressure to motivate the primary contractor
- **Full Development with Scaled Production** - Government selects one vendor for full-scale production; awards second source for limited production
 - This strategy is best to minimize risk during production phase of the program
- **Next Increment Prototype Model** - Primary vendor builds current production unit. Second vendor builds a prototype for the next program increment and is positioned to compete for the next program increment
- **Partial Contractor-funded Development Model** - Partial development funding to second vendor who can fully fund their design; potential to recapture development costs if the Government selects them for follow-on production

Source: Defense ARJ, Issue 65, April 2013, Continuous Competition as an Approach to Maximize Performance

Evaluate Test and Evaluation Strategies

■ Testing and design problems can impact performance

- Nunn-McCurdy Breaches - DoD has canceled entire programs for cost overruns due to design problems after investing billions of dollars
- GAO - 50 of 74 breaches involved design issues discovered after production start
- Defense Office of Performance Assessments and Root Cause Analyses (PARCA) Report - root cause analysis of cost drivers, especially in performance management

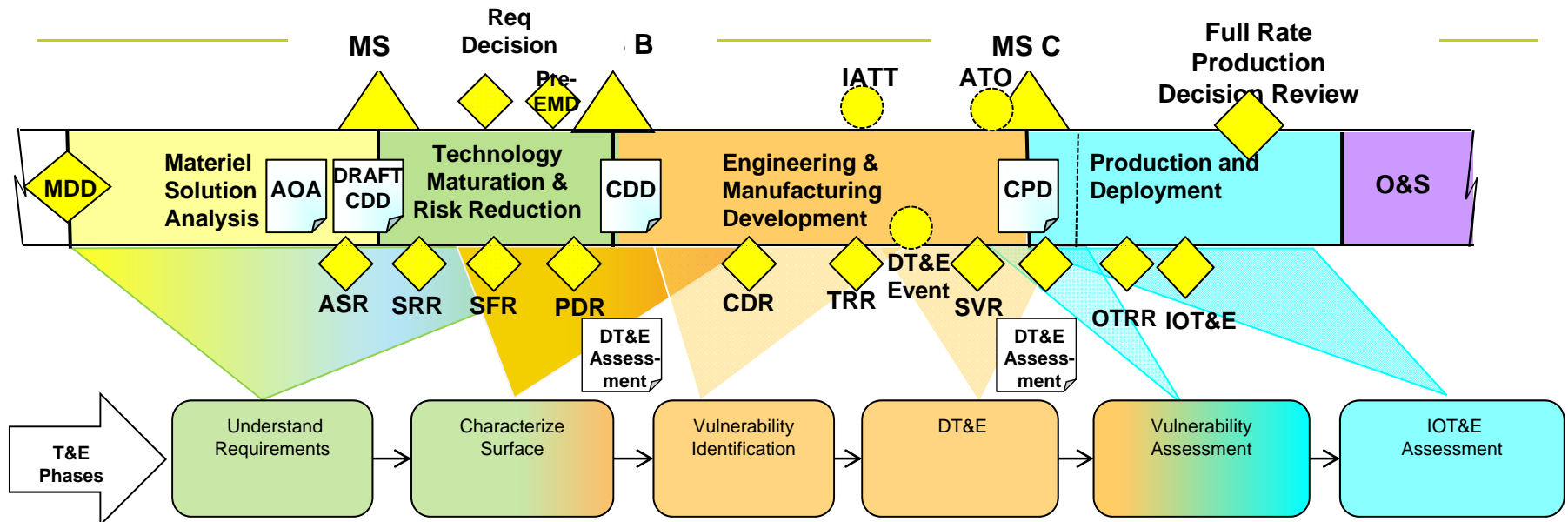
PARCA 2013 Report: Currently Dominant Root Causes

- **Poor systems engineering to translate user requirements into testable specifications**
- **Ineffective use of contractual incentives** - acquisition strategy satisfies conditions for success
- **Poor risk management** - evaluation, and mitigation of risks
- **Poor situational awareness** - related to the cost, schedule, and technical performance

■ Test and Evaluation should be exploited to improve outcomes

- Early involvement by Test and Evaluation (T&E) experts - Prove the design and sustainment concepts through demonstration and test
- Develop a common test environment - End-user suitable as well as supportable. Cyber upgrades and software fixes need to be easily accommodated
- Establish IP rights for test data - IP rights should extend to the development and test environment where vendors may lay the groundwork for system changes

T&E Phases



- Phases as depicted are mapped to milestones and design reviews
 - Programs have latitude on timing of Phases
 - Phases should be iterative as system matures
- Build in “fix-it” intervals, *shift “vulnerability discovery”* earlier in life cycle
- Interim DoDI 5000.02, 26 Nov 2013 - New/better guidance for testing of IT
- Defense Acquisition Guidebook Chapter 9 - DASD DT&E and OSD DOT&E are collaborating on update

Subcontractor, Supplier, Make or Buy

- **Obtain full market research data from the Prime under FAR Part 10 to maximize access to other suppliers**
 - Prime vendor develops a market analysis with a minimum of three alternatives: make, buy, or hybrid buy with multiple suppliers
 - Prime vendor develops a basis of estimate (BOE) that supports the technical approach to make or buy; substantiate BOE with plans for efficiencies
- **Utilize contract clauses such as value engineering or award fee incentives to encourage proposals for supplier efficiencies**

FAR 48.101 Value Engineering - Contractors may suggest or be required to propose methods for performing more economically. Value engineering attempts to eliminate, ...anything that increases acquisition, operation, or support costs.

- **Engage supply chain vendors for production line efficiencies**
- **Leveraging Small Business Innovation Research (SBIR) to introduce new players in technology**

Underutilized Resources

- **Defense Contract Management Agency**
 - Leverage Vendor Knowledge
 - Quality system reviews, test and inspect

DCMA Corporate ACO has extensive data on the Prime to conduct a review of product lines across multiple customers

- **Defense Contract Audit Agency**
 - Access to IR&D, IP investment financial data
 - Conduct special audits

- **Suppliers**
 - Parts standardization opportunities
 - Additional sources

What happened to those suppliers on the competing contractor's team that didn't win the production contract? They could be a source of supply

- **Contracting Officers**
 - Utilize contracting provisions in their tool kit (VECP)
- **R&D Entities**
 - Tap into DARPA, SBIR, STTR Programs for additional sources

Recommendations

- **Analyze the true ownership and value of IP**
 - Appendix 10 *OSA Contract Guidebook* strategies
- **Consider competitive production strategies**
 - Dual source production, leader-follower, low-level production quantity, targeted technology development second source
- **Minimize variables and design problems**
 - Redundancy, shared technology, commercial variants
 - Standardize component and spare parts specifications
 - Make T&E an interactive process in the life cycle
- **Renegotiate prices for continued efficiencies**
 - IP ownership, technical data reuse, component and supplier parts competitions, quantity discounts
 - Utilize contract clauses (VECP, award fee, post-award audits)
- **Collaborate to avoid and mitigate vendor lock**
 - Break down Military Service and Program Stovepipes

Actions:

- Collaborate with DCMA/DCAA to use vendor data
- Own IP assets
- Leverage shared technology
- Utilize Contract provisions to continually pursue efficiencies